REMARKS

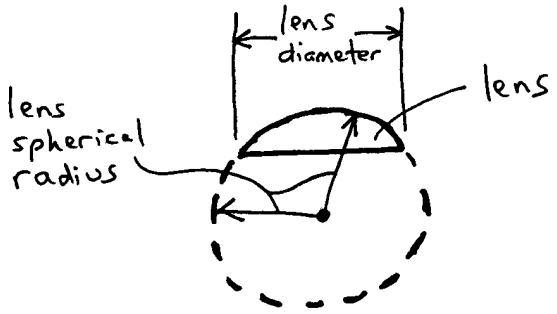
This is in response to the Office Actions dated December 19, 2005 and March 13, 2006.

Claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Tokumitsu in view of Hoopman. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires a *combination of both* (a) center offset, and (b) larger *diameter* of the light-focusing parts moving toward the peripheral region. In particular, claim 1 requires that "the position of the center of each of the light-focusing parts is shifted gradually larger toward the center of the camera region based on the position of each of the light-receiving parts corresponding to the light-focusing parts and the *diameter* of each of the light-focusing parts becomes gradually larger, as the location of the light-focusing part is getting closer to the peripheral camera region from the middle camera region on the substrate in the front of the exit pupil." E.g., see pg. 15, lines 15-23 and Fig. 1 of the instant specification (note that W_n in Fig. 1 represents lens diameter). The cited art fails to disclose or suggest this combination of (a) and (b) referenced above.

In the Final Office Action and Advisory Action, the Examiner relies primary on Hoopman's statement at col. 9, lines 22-25, that "the desired lens *sphere* radius, Rs, may vary across the array (e.g., it may be shorter toward the center of the array than at the periphery" (emphasis added). Importantly, the Advisory Action mis-quotes Hoopman. The Advisory Action refers to a "lens radius, Rs" in Hoopman, but Hoopman does not say this. Instead, Hoopman at col. 9, lines 22-25 refers to a "lens *sphere* radius, Rs" which may vary, which is much different than the "lens radius" alleged by the Examiner. See below.

Hoopman describes the desired "lens sphere radius, Rs" at col. 9, lines 15-28. The technical term "lens sphere radius" is much different than a "lens radius." The technical term "lens sphere radius" corresponds to a curvature radius of a lens sphere. On the other hand, the term "lens radius" is more vague but generally corresponds to half a distance across the lens. That is, a lens spherical radius is an inherent property of a lens shape, while a lens radius varies depending on a lens height (or thickness) regardless of its lens spherical radius.



Therefore, the description in Hoopman at col. 9, lines 23-26, that "(e.g., it may be shorter toward the center of the array than at the periphery if the microlenses at the center of the array have shorter focal lengths than those at the periphery)" explains merely that a focal length can be controlled by changing a lens spherical radius of a lens to be used. Thus, it will be appreciated that Hoopman fails to disclose or suggest the *diameter* of each of the light-focusing parts becomes gradually *larger*, as the location of the light-focusing part is getting closer to the peripheral camera region from the middle camera region, as called for in claim 1.

In contrast with claim 1, Hoopman describes a projection system in Fig. 3 in which a microlens at the center has a larger lens diameter and a higher lens height than those of a microlens at the periphery.

Thus, it should now be more fully appreciated that both Tokumitsu and Hoopman fail to disclose or suggest the combination of (a) center offset, and (b) larger *diameter* of the light-focusing parts moving toward the peripheral region.

As explained previously, Tokumitsu discloses a solid state image sensor including photodiodes 3, color filters 2, and microlenses 1. As shown in Figs. 3, 3A, 3B and 3C of Tokumitsu, the centers of the microlenses 1 are shifted by amounts da, db and dc toward the periphery of the sensor. In Fig. 3A, the centers of the microlenses 1 are shifted toward the center by amounts da and db moving toward the periphery of the sensor. Significantly, *Tokumitsu states that the purpose of shifting the centers of the microlenses is to correct the focal points of the lenses* (col. 2, lines 29-31). However, Tokumitsu does *not* disclose or suggest also changing the "diameter" of the microlenses moving away from the sensor center as called for in claim 1.

In view of the aforesaid flaw in Tokumitsu, the Office Action cites to Hoopman. However, Hoopman also fails to disclose or suggest this feature as explained above. Thus, even the alleged combination (which applicant believes would be incorrect in any event) fails to meet claim 1.

It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____
Joseph A. Rhoa
Reg. No. 37,515

JAR:caj
901 North Glebe Road, 11th Floor
Arlington, VA 22203-1808
Telephone: (703) 816-4000
Facsimile: (703) 816-4100